

REMARKS

Claims 1-28 remain in the application. Claim 26 has been amended.

As to the section 102 and 103 rejections, applicants respectfully submit that the claimed invention is distinguishable over the cited references to Hane 4,162,041, Baker 6,003,559, and/or Lew 4,824,019.

As to the rejection of independent claim 1, it is presumed that it would be obvious to combine Hane's sprinkling device 1 with Baker's piping assembly 10. This is incorrect.

In Hane, the socket 4 does not define at least two fluid passageways to permit more than one fluid stream through the frame, as required by claim 1. While water flows through the main pipe 2, neither the holes 15 nor the valve 16 in Fig. 5 constitutes a fluid stream between adjacent sub-pipes 3. The socket 4 does not provide a passageway through its interior to allow a fluid stream between the sub-pipe 3 on one side (e.g., left side in Figure 5) of the socket 4 to fluidly connect to another sub-pipe 3 disposed on the opposite side (e.g., right side in Figure 5) of the socket. Rather, the socket 4 only permits fluid flow to the sub-pipes 3 in (Fig. 5) from the main pipe 2 through the branch opening 13 which feeds off the main pipe. Hane's holes 15 and valve 16 provide flow from the main pipe 2 to each individual sub-pipe 3. Neither the holes 15 nor the valve 16 provides a fluid passageway between adjacent sub-pipes 3.

In contrast to claim 1, Hane's socket 4 does not define more than one fluid passageway through its length. The sub-pipes 3 are merely an extension of the same fluid stream defined by the main pipe 2. This is because water feeds into the sub-pipes 3 from the main pipe 2 at the socket 5 and then branches either left or right, relative to Fig. 5, into the sub-pipes 3 and consequently flows out of numerous spurting holes defined in the sub-pipes. (See column 7,

lines 48). This is clearly unlike claims 1 and 16. It would not be obvious to combine Hane with Baker to overcome these deficiencies.

In Baker, a piping assembly includes hydrocarbon flow lines 17, 21 for deep-water hydrocarbon production. In the Office action, it is presumed that claim 1 would be obvious by combining the fluid passageways 2, 3 of Hane with the insulation 22 disclosed in Baker. This is not a proper combination. Neither reference teaches or suggests any such combination. The environments in which each structure is used discourage any such combination. Baker's marine hydrocarbon production piping assembly has insulated flow lines 17, 21 (surrounded by insulation layers 22, 23, 24) specifically for minimizing heat loss at cold underwater depths (e.g., sometimes exceeding 3,000 feet below mean sea level) (Column 1, lines 33-37). Hane's system operates at ground level to irrigate dry land and requires no insulation for heat loss. These are vastly different environments. It would not be obvious to combine Hane and Baker in the absence the teaching provided by applicant's disclosure. Any combination is based solely on the hindsight provided by applicant's disclosure. For this reason, claim 1 should be allowed.

Another reason is that any combination of Hane and Baker is counterintuitive to the teachings or motivations of these references. If the flow lines 17, 21 and insulation 22 of Baker were substituted for the main pipes 2 and sub-pipes 3 of Hane's sprinkling device, then there would be no spurting holes along the length of the fluid passageways. Hane requires numerous small spurting holes which are divided among several sub-pipes 3 to perform irrigation (Col. 7, lines 28-37). At the outermost sub-pipes 3, a closure part 12 or cap 9 is used to force the water through Hane's spurting holes. In contrast, Baker does not have any spurting holes. Baker teaches and suggests that each flow line 17, 21 has one inlet and one outlet somewhere opposite

the inlet. Baker teaches away from anything which would result in a loss of heat from its insulated flow lines 17, 21. Obviously, spurting holes through Baker's flow lines 17, 21 and insulation 22 would lose hydrocarbons as well as heat, and, in either case, are undesirable. Therefore, the alleged combination of Hane and Baker eliminates the entire purpose of Hane, that is, to provide a liquid sprinkling device.

In addition, Baker is further subject to deficiencies of its own. Baker's insulation 22 fails to disclose the claimed frame because the insulation fails to define at least two fluid passageways to permit more than one fluid stream through the insulation. In Baker's piping assembly, the successive sections of insulation 22 are divided in between by spacer bodies 26. Each section of insulation 22 is separated from an adjacent section of insulation 22 by a spacer body 26. These disjointed sections of insulation 22 can hardly define two fluid passageways to permit more than one fluid stream therethrough. This is an additional reason that claim 1 is unobvious.

As to claim 16, Hane does not have a frame which includes at least two fluid passageways defined within the frame and extending substantially throughout the frame. As discussed above, Hane fails to define a second passageway by its disjointed sub-pipes 3. Baker is not properly combinable with Hane to teach or suggest claim 16 for the same reasons as discussed above, and, in any event, Baker's insulation 22 fails to define first and second passageways extending substantially throughout the frame.

As to claims 14 and 25, Lew cannot teach or suggest three passageways through the frame. Lew's lawn-border sprinkler teaches and suggests only one compartmentalized passageway. Lew's sprinkler 1 has a sprinkling conduit 3 which is fluidly isolated into several

sprinkling compartments 14, 15 and 16 by a plurality of blockages 17 and 18. Each compartment is fed by different combinations of underlying sections of the supplying conduits 4, 5 and 6 depending on where the blockages 20, 24 and 25 and the flow path-switching ports 19, 21, 22 and 23 are located. Lew's sprinkler is clearly understood to permit only one fluid passageway through the sprinkler at any one time (col. 3, lines 30-56). A manifold valve at the upstream end of the sprinkler cycles the water supply to each supplying conduit 4, 5 and 6, one at a time, in a cyclical pattern which is typical of a conventional sprinkler system. Never is more than one sprinkling compartment 14, 15 and 16 operating at the same time. Lew's sprinkler does not permit more than one fluid stream through the system and thus cannot teach or suggest claims 14 and 25.

Lew further teaches that the sprinkling conduit 3 must be compartmentalized along its length. In this regard, Lew teaches away from any passageway which extends throughout the frame. Fig. 3 shows the sprinkling conduit 3 broken down into at least three compartments 14, 15, 16 along its length (Col. 3, lines 8-29). Lew teaches that compartmentalizing of the sprinkling conduit along its length is imperative due to the pressure and volume limitations of a lawn-border sprinkler system (Col. 3, lines 45-50). Even the embodiment of Fig. 4 is merely a sub-section of a larger sprinkler system, which as Lew teaches, connects to the connecting members shown in Figs. 5-10 to form a system like that shown in Fig. 3 (Col. 4, lines 43-53; Col. 5, lines 27-34). Clearly, none of Lew's conduits 3, 4, 5 and 6 define first, second and third passageways on their own due to the placement of several blockages 17, 20, 24 and 25. Lew's sprinkling conduit 3 is partitioned along its length and so are the

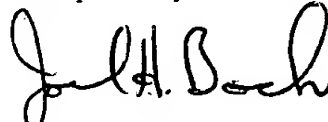
corresponding sections of supplying conduits 4, 5 and 6 which feed water into a particular section of the sprinkling conduit 3. Accordingly, Lew teaches away from claims 14 and 25.

Finally, as to claim 26, none of Hane, Baker and Lew teach or suggest a frame which includes first and second conduits which define first and second passageways which are fluidly separate from each other throughout the frame, as recited in amended claim 26. Hane's sub-pipes 3 do not define any passageway which is fluidly separate from the passageway defined by the main pipe 2. Any so-called second passageway defined by the sub-pipes 3 is part of the passageway of the main pipe 2 through the connections at sockets 4 and 5. Nor is it proper to combine Hane with Baker for the reasons discussed above. Lew's compartmentalized sprinkler also cannot suggest first and second passageways which are separate from each other throughout the frame because, as discussed above, it fails to permit more than one fluid passageway through the sprinkler at any one time. Claim 26 is also believed to be allowable.

For the above reasons, it is believed that the cited references are wholly unlike applicants' claimed distribution tube assembly and cannot anticipate or render it obvious.

Claims 1-28 are now respectfully believed to be distinguishable over the cited references. Reconsideration and allowance of these claims is respectfully requested.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Joel H. Bock". The signature is fluid and cursive, with the first and last names being more prominent.

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